

the system comprising the following elements, in combination,

a transmitter having multiple digital data processing elements including a forward error correcting ("FEC") encoder, an interleaver ("I") and a differential encoder ("DE"), aligned with an outward path from one element to the next traveled by a message for preparing the message for processing by complementary processing elements at a receiver to which a transmitted message is addressed,

a receiver having multiple, digital data processing elements that are the complements to those of the transmitter including a FEC decoder, a de-interleaver ("DI") and a differential data decoder ("DDE") within a path for processing an incoming digital data message having lost a data segment to a J pulse during transmission,

wherein,

2. The coherent RF digital data communication system of claim 1 wherein the differential encoder ("DE") tx3e of transmitter Tx3 is located near transmitter Tx3g and the differential decoder ("DDE") Rx4d of receiver Rx4 is located near receiver Rx4b.

3. The coherent RF digital data communication system of claim 1 wherein a spread spectrum modulator ("SSM") element Tx3f is positioned within transmitter Tx3 between the DE Tx3e and receiver transmitter Tx3h for spreading a transmitted message and a spread spectrum demodulator ("DDE") is positioned within receiver Rx4 between the DDE Rx4d and receiver Rx4b for de-spreading a received message.

4. The coherent RF digital data communication system of claim 1 wherein transceiver Tx3 further includes a multiplexer ("MUX")Tx3a and an encrypter ("ENCRYPT") coupled to the FEC coder Tx3e and other elements of transmitter Tx3 in alignment with an outgoing message and

wherein receiver Rx4 further includes a de-multiplexer ("DMUX") Rx4h and a de-encrypter ("DE-CRYPT") Rx4g coupled

5. The coherent RF digital data communication system of claim 1 wherein receiver Rx4b includes a burst clamp to enable the receiver to recover coherence with an incoming message following the trailing edge of a J pulse that strikes a transmitted message.

7. The coherent RF digital data communication system of claim 3 wherein the SSDM Rx4c includes a pseudorandom number ("PN") slip circuit to inhibit temporarily disspreading of received data to verify the loss of coherence recovery is due to a strike of an incoming message by a J pulse.

at a transmitter,

at a receiver Rx4,

recovering incoming message data including remnant message data of a message hit by a J pulse by performing the DDE step near the output of receiver Rx4b by synchronizing with incoming data bit pairs and inverted data bit pairs thereby synchronizing rapidly to the incoming message at each downstream element.

10. The coherent RF digital data communication method of system of claim 8 including the steps of spreading the transmitted message at spread spectrum modulator ("SSM") element Tx3f prior to transmitting Tx3g the message and de-

